City of Fulton, Missouri

Smart Grid Project

Abstract

The City of Fulton, Missouri, (Fulton) Smart Grid project involves installing new smart meters for all residential, commercial, and electric meters inside city limits; supporting communication infrastructure; and offering advanced electricity service options for customers across its entire customer base. The project includes: (1) implementing two-way communication and utility applications to enable customers to view their electricity consumption at their convenience through the customer's Web portal, and (2) implementing time-based rate programs that allow customers to better manage their electricity usage and costs.

Smart Grid Features

Communications infrastructure includes radio frequency-based meter communications networks and fiber optics-based backhaul communications systems. This communications infrastructure allows for a two-way flow of information between Fulton's utility department and individual customers. The communications infrastructure is being deployed to enable opportunities for future expansion to interact with customer-sited devices in homes and businesses in Fulton.

Advanced metering infrastructure (AMI) includes a system-wide deployment of smart meters to approximately 5,800 residential, commercial, and industrial customers. The smart meters provide daily history of electricity usage and allow remote reading, remote power shut-offs, and remote control of in-home devices like programmable communicating thermostats. The meters provide automated tamper and theft detection and outage notification capabilities. The meters also provide voltage monitoring capabilities which can be integrated with future deployment of distribution voltage control devices.

At-A-Glance

Recipient: City of Fulton

State: Missouri

NERC Region: SERC Reliability Corporation

Total Budget: $3,055,282

Federal Share: $1,527,641

Project Type: Advanced Metering Infrastructure and Customer Systems

Equipment

- 5,762 Smart Meters
- AMI Communication Systems
  - Meter Communications Network
  - Backhaul Communications
- Home Area Networks
- Customer Web Portal Access for 5,500 Customers
- 100 Programmable Communicating Thermostats

Time-based Rate Programs

- Time-of-Use Pricing
- Critical Peak Rebates

Key Targeted Benefits

- Reduced Meter Reading Costs
- Reduced Operating and Maintenance Costs
- Reduced Electricity Costs for Customers
- Reduced Costs from Equipment Failures and Thefts
- Reduced Truck Fleet Fuel Usage
- Reduced Greenhouse Gas and Criteria Pollutant Emissions

Advanced electricity service options include programmable communicating thermostats and deploying home area networks providing access to a Web-based information portal. These new customer systems facilitate two-way information flow between customers and the utility, and enable customers to better evaluate and manage their electric use and time of use along with their selected rate structure.

City of Fulton, Missouri *(continued)*

Time-based rate programs include time-of-use pricing and critical peak rebates for residential and small commercial customers receiving smart meters. These time-based programs, in conjunction with Fulton's load management program and new customer system assets, help Fulton better manage peak electricity demand and provide practical ways for the customers to reduce their electricity costs.

Timeline

Key Milestones	Target Dates
AMI deployment begins	Q3 2010
AMI deployment ends	Q2 2012
Pricing program rollout begins	Q4 2012
Customer system deployment begins	Q3 2011
Customer system deployment ends	Q1 2012

Contact Information

Darrell Dunlap
Superintendent of Utilities
City of Fulton
futility@fultonmo.org

Gayla Dunn
Community Development Officer
City of Fulton
fcomdev@fultonmo.org

Recipient Team Website: www.fultonmo.org